

PROJECT HEALTH AND SAFETY PLAN

Boeing Realty Corporation
Former C-6 Facility
1451 Knox Street
Los Angeles, California

June 5, 2006

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Requested and Prepared for:

**Boeing Realty Corporation
Former C-6 Facility
1451 Knox Street
Los Angeles, California**

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1.0 INTRODUCTION

The Boeing Realty Corporation (BRC) has retained Tait Environmental Management, Inc. (TEM) to perform environmental services at the Former C-6 Facility located at 1451 Knox Street in Los Angeles, California.

This Health and Safety Plan (HSP) is written to ensure the well being of all field personnel and the community surrounding the Site. Daily safety meetings are routine at TEM. Accordingly, project staff and approved TEM subcontractors must follow the policies and procedures established in the HSP. All personnel assigned to this project must be knowledgeable of emergency procedures and have readily available access to the Site Specific Emergency Information (Appendix A). All personnel must sign the Agreement and Acknowledgement Sheet (Appendix B), specific to their site, to confirm that they understand, agree, and abide by the provisions of the plan.

All work will comply with CAL/OSHA's, Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) as described in the California Code of Regulations (CCR), Title 8, Section 5192. Also, all activities will comply with all other federal, state, and local procedures that require the development and implementation of a HSP. Generation of this document certifies that the workplace has been evaluated for the hazards as described. A hazard assessment has been performed and subsequently personal protective equipment (PPE) has been selected in order to provide a safe work environment and comply with Cal/OSHA regulations as described in the CCR, Title 8:

- Section 338, Head Protection
- Section 3382, Eye Protection
- Section 3383, Body Protection
- Section 3384, Hand Protection
- Section 3385, Foot Protection
- Section 5098, Hearing Protection
- Section 5144, Respiratory Protective Equipment

TEM personnel sign and date this HSP in order to acknowledge his/her responsibilities for complying with these PPE requirements.

This Health and Safety Plan must be modified or amended when circumstances or conditions develop that are beyond the scope of this plan. Changes in project work scope and/or site conditions as described must be amended in writing by the Site Health and Safety Coordinator (SHSC) and the Health and Safety Manager (HSM).

2.0 HEALTH AND SAFETY PERSONNEL

The following sections briefly describe the health and safety personnel and general responsibilities, which will be employed during the duration of the project.

TEM will oversee and act accordingly during all phases of the project. The following management structure will be instituted for the purpose of successfully and safely completing this project.

MEDICAL TECHNICAL ADVISORS

Mehmet Pehlivan or Thomas Dixon
Tait Environmental Management, Santa Ana, CA

714-560-8200

The specific duties of the medical/technical advisors include:

- Providing technical input into the design of the site health and safety plan.
- Advising worker exposure potential along with appropriate hazard reduction methods, and
- Recommending a suitable medical monitoring program for the site workers is the responsibility of an occupational health doctor in conjunction with consultation of the above listed personnel.

A Site Health and Safety Officer (SHSO) will be assigned on a full time basis to each site during site activities and shall assist and shall represent the Health and Safety Manager. The SHSO shall have the responsibility and authority to implement and enforce the approved SHSPs; this includes modifying/halting work, and removal of personnel from the site if work conditions change and effect on-site/off-site health and safety matters. The SHSO will serve as the main contact for any on-site emergency situation. On-site personnel duties are summarized in Table 1.

TABLE 1
Responsibilities of On-Site Personnel

Title	General Description	Responsibilities
Project Manager Mehmet Pehlivan	Reports to upper-level management. Has authority to direct response operations. Assume total control over site activities.	<ul style="list-style-type: none"> • Prepares and organizes background review of the project, the work plan, the Site Safety Plan, and the field team. • Obtains permission for site access and coordinates activities with appropriate officials. • Sees that the work plan is properly carried out and on schedule. • Brief the field personnel on specific assignments. • Together with the Site Safety and Health Officer sees that health and safety requirements are met. • Prepared final report and follow up on PIR events.
Site Health and Safety Officer Kevin Lambert	Advises the Project Manager on all aspects of health and safety on site. Stops work if site operations threaten worker or public health and safety. Informs health and safety specialist of any changes in site conditions or project status.	<ul style="list-style-type: none"> • Periodically inspects protective clothing and equipment. • Sees that protective clothing and equipment are properly stored and maintained. • Controls entry and exit at the access control points. • Monitors the workers for signs of stress. Including heat stress, cold exposure, and fatigue. • Implements the Site Health and Safety Plan. • Conducts periodic inspections to assess whether the Site Health and Safety Plan is being followed. • Enforces the "buddy system". • Informed of emergency procedures, evacuation routes, and telephone number of local hospital, poison control center, fire department, and police department. • Notifies when necessary, local public emergency officials. • Submits PIRs promptly to site supervisor and project manager. • Maintains communication with health and safety representative on site activities. • Coordinates emergency medical care. • Sets up decontamination lines and decontamination solutions appropriate for the chemical contaminants encountered. • Controls the decontamination of equipment, personnel, and samples from contaminated areas. • Facilitates the proper disposal of contaminated clothing and materials. • Maintains the availability of required equipment. • Advises health services and medical personnel of potential exposures. • Notifies emergency response personnel in the event • Maintains and oversees operation of monitoring equipment and interpretation of data from the monitoring equipment.

Project Supervisor Kevin Lambert	Reports to Project Manager. Has authority to direct response operations. Assumes total control over site activities.	<ul style="list-style-type: none"> • Manages field operations. • Executes the work plan and schedule. • Enforces safety procedures. • Coordinates with the Site Health and Safety Officer in enforcing worker protection levels. • Enforces site control. • Documents field activities and sample collection. • Notifies when necessary, local public emergency officials. • Submits PIRS and initiates follow up with project manager and SHSO.
Work Team	Reports to Project Supervisor for on-site activities. Work parties must comprise at least two people for high hazard operations.	<ul style="list-style-type: none"> • Safely completes on-site tasks required to fulfill the work plan. • Complies with the Site Health and Safety Plan. • Notifies Site Health and Safety Officer or supervisor of suspected unsafe conditions. • Submits PIRS to SHSO and Project Supervisor.

2.1 Health and Safety Manager

The HSM has the primary responsibility for ensuring that the policies and procedures of this HSP are implemented. The HSM ensures that all personnel designated to work at the Site are qualified according to medical surveillance and health and safety training consistent with Cal/OSHA CCR Title 8, Section 5192 regulations covering Hazardous Waste Operations and Emergency Response. The HSM is responsible for providing the appropriate monitoring and safety equipment necessary for the implementation of this HSP. Any significant changes to the HSP must be approved by the HSM.

2.2 Site Health and Safety Officer

The SHSO has the responsibility to implement this HSP. The SHSO will investigate all accidents and incidents occurring at the Site. The SHSO will conduct safety briefings and site-specific training for on-site personnel. The SHSO will accompany all CAL/OSHA and other governmental agency personnel visiting the Site in response to health and safety issues. Responsibilities include modifying and/or developing new procedures after consultation with the HSM when Site or environmental conditions change due to natural causes or due to the conduct of the Site operations.

The SHSO has stop-work authorization if it is determined that an imminent safety hazard or potentially dangerous situation exists. Authorization to proceed with work will be verified by the HSM. The SHSO will be responsible for implementing evacuation procedures, including the shutting down of appropriate equipment, removing equipment from areas and coordinating necessary emergency services on-site.

2.3 Team Members

All team members, including all employees of subcontractors working at the Site will be responsible for understanding and complying with all Site health and safety requirements. All members of this group will have been provided any Site-specific training regarding the hazards and protection involved for this particular project. Subcontractors will be responsible to provide their employees with appropriate equipment and clothing.

3.0 TASK DESCRIPTIONS

This plan addresses the safety issues associated with the subject Site and surrounding properties, and involves the following site-specific tasks:

- Groundwater Monitoring/Sampling
- Soil/Vapor Extraction System Maintenance/Operation

4.0 GENERAL HEALTH AND SAFETY REQUIREMENTS

4.1 Personnel Training Requirement

Consistent with Cal/OSHA CCR Title 8, Section 5192 regulation covering Hazardous Waste Operations and Emergency Response, all site personnel are required to be trained in accordance with the standard. At a minimum, all personnel are required to be trained to recognize the hazards on-site, the provisions of this HSP, and the responsible personnel.

Prior to arrival on site, each employer shall be responsible for certifying that his field personnel meet the requirements of pre-assignment training. Each employer must provide a document certifying dates of personnel's 40 hours of training. Personnel must also have eight hours of annual refresher training and this documentation will be provided. Individuals designated as site supervisors are required to have an additional eight hours of training, and supportive documentation is to be provided and filed.

4.2 Medical Surveillance Requirements

Medical monitoring programs are designed to track the physical condition of employees on a regular basis as well as survey pre-employment or baseline conditions prior to potential exposures. The medical surveillance program is a part of each employer's Health and Safety program.

4.2.1 Baseline or Pre-assignment Monitoring

Prior to being assigned to a hazardous or a potentially hazardous activity involving exposure to toxic materials, each employee must receive a pre-assignment or baseline physical. The contents of the physical are to be determined by the employer's medical consultant. As suggested by NIOSH/OSHA/USCG/EPA's Occupational Safety & Health Guidance Manual for Hazardous Waste Site Activities, the minimum medical monitoring requirements are as follows:

- Complete medical and work histories;
- Physical examination;
- Pulmonary function tests (FVC and FEV₁);
- Chest X-ray (every 2 years);
- EKG;
- Eye examination and visual acuity;
- Audiometry;
- Urinalysis; and
- Blood chemistry, including hematology, serum analyses, and heavy metals toxicology.

No additional testing for specific contaminant health effects is required.

The pre-assignment physical should categorize employees as fit-for-duty and able to wear respiratory protection.

4.2.2 Periodic Monitoring

After the baseline physical, all employees will require a periodic physical every 12 months, unless the advising physician believes a shorter interval is appropriate. The employer's medical consultant should prescribe an adequate medical exam, which fulfills CAL/OSHA CCR Title 8, Section 5192 requirements. The pre-assignment medical outlined above may be applicable.

4.2.3 Exit Physical

Enrollment in the medical monitoring program will end at such time as the employee terminates the program and/or the company. At that time, an exit examination for the employee is required. Employees shall take an exit physical unless they provide written documentation waiving this requirement.

4.2.4 Exposure/Injury/Medical Support

As a follow-up to an injury or possible exposure above established exposure limits, all employees are entitled to and encouraged to seek medical attention and physical testing. Depending upon the type of exposure, it is critical to perform follow-up testing within 24-48 hours. It will be up to the employer's medical consultant to advise the type of test required to accurately monitor for exposure effects.

4.3 Heat Stress Procedure

Heat stress is a significant potential hazard associated with the work task performed and the type and degree of protective equipment used in hot weather environments. Local weather conditions may produce conditions which will require restricted work schedules in order to protect employees. Monitoring for heat stress will follow one of two protocols depending on whether impermeable clothing (tyvek, saranex, rain gear, etc.) or permeable clothing (cotton overalls) is worn. This section will apply to both hazardous and non-hazardous waste workers at the site.

4.3.1 Workers Wearing Permeable Clothing

The American Conference of Governmental Industrial Hygienists (ACGIH) have set threshold Limit Values (TLVs) for worker exposed to heat stress in which it is believed that nearly all workers may be repeatedly exposed without adverse health effects. The TLVs assume that workers are acclimatized, fully clothed in permeable clothing with adequate water and salt intake, and capable of functioning effectively under the given working conditions without exceeding a deep body (core) temperature of 100.4 Fahrenheit (°F). Table 2 reviews the work/rest regimen to be followed by all permeably clothed workers.

TABLE 2
Permissible Heat Exposure TLVs Applicable to Workers Wearing Permeable Clothing

Work/Rest* Regimen	Workload °F		
	Light	Moderate	Heavy
Continuous work	86 (76)	80 (70)	77 (67)
75% work – 25% rest, each hour	87 (77)	82 (72)	78 (68)
50% work – 50% rest, each hour	89 (79)	85 (75)	82 (72)
25% work – 75% rest, each hour	90 (80)	88 (78)	86 (76)
* Rest means minimal physical activity. Rest should be accomplished in the shade. Any activity requiring only minimal activity can be performed during rest period. () Parentheses indicate the 10-degree adjustment for working in impermeable protective clothing.			

4.3.2 Workers Wearing Impermeable Clothing

Workers who must wear impermeable clothing are held at a higher risk of suffering heat stress. Impermeable clothing impedes sweat evaporation, one of the body's major cooling mechanisms. It is the duty of each employer to alert or notify the SSO if symptoms of heat stress occur to their respective site personnel. Physiological and environmental monitoring of personnel wearing an impermeable protective equipment ensemble will commence when the ambient temperature rises above 70 °F. Environmental monitoring will be conducted continuously for as long as the ambient temperature stays above 70 °F, and physiological monitoring will be conducted immediately before and after each work period. Frequency of physiological monitoring will increase as the ambient temperature increases or if slow recovery rates are indicated. The break time must be sufficient to allow workers to recover from the effects of heat stress. This will be accomplished by measuring the recovery heart rate and oral temperature (OT). The break Time duration will be determined using the following methodology and criteria:

- Seat person being monitored
- Take oral temperature
- Measure pulse in following sequence:
 1. Pulse #1: 30 seconds to 1 minute after sitting
 2. Pulse #2: 2 1/2 to 3 minutes after sitting

An excessive heat stress condition exists when any of the following conditions exist:

1. Oral or ear temperature exceeds 99.5 °F
2. If pulse #2 is greater than 90 beats/minute, and
3. Pulse #1 is greater than 110 beats/minute.

Worker cannot return to work until:

- Oral or ear temperature is below 99.5 °F
- Pulse rate is below 90 beats/minute
- Recovery rate for workers with heart rates over 90 beats per minute is less than 10 beats per minute less than the original heart rate.

Adhering to the guidelines for heat stress prevention and monitoring will greatly minimize the possibility of the occurrence of heat stress. Site personnel must also be aware of the symptoms of heat-related disorders and be prepared to administer the appropriate treatments.

4.3.3 Prevention

- A. Provide plenty of fluids. A 50 percent solution of fruit juice or similar solution in water, or plain water will be available. For workers performing inside an exclusion zone, fluid intake may occur in the contaminated reduction zone (CRZ). Workers must first perform a partial decontamination process, which will include removal of gloves and washing of hands and face prior to consumption of fluids. The SSHO will monitor the partial decontamination and fluid consumption process to ensure that ingestion of site contaminants does not occur.
- B. Work in pairs. No activity where personnel are in Level C/B or confined space entry will be conducted alone.
- C. Provide cooling devices. Monitor workers for heat stress levels. If a worker becomes overheated, immediately spray cold water over the head of the worker and place him in front of a fan. This will cool the overheated body down. Ice vests or on-site showers can be provided to reduce body temperature and/or cool protective clothing. The amount and type of undergarments worn will be left to the preference of each individual unless prone to heat stress, especially heat rash. In this case, the worker can wear "long john" cotton type underwear to keep the skin away from contact with the chemical resistant clothing.
- D. Adjustment of work schedule. When practicable, the most labor-intensive tasks should be carried out during the coolest part of the day.
- E. Shaded or cooled rest areas. Shaded or cooled rest areas will be provided when site environment and/or workers physiological responses warrant.

4.3.4 Heat Stress Monitoring

Physiological monitoring of personnel wearing an impermeable protective ensemble will be conducted at regular intervals at the beginning and conclusion of the work period. Heart rate must be periodically measured for all site personnel when heat stress conditions (climate or wearing impermeable clothing). Additional physiological monitoring such as body temperature (BT) and body water temperature (BWT) monitoring can be measured for extreme temperatures and when impermeable clothing is worn. The frequency of physiological monitoring is presented in Table 3.

- A. Heart rate (HR) must be measured by the radial pulse for 30 seconds as early as possible in the resting period and repeated approximately 3 minutes into rest period. The HR at the beginning of the rest period should not exceed 110 beats per minute. The HR should not exceed 90 beats per minute after approximately 3 minutes of rest. If the HR does not exceed the criteria, the next work period will be shortened by 33 percent, while the length of the rest period will remain the same. If the HR still exceeds the criteria at the beginning of the next rest period, the following work period will be shortened by 33 percent.
- B. Body temperature can be measured orally with a clinical or disposable thermometer, in accordance with manufacturer's instructions, as early as possible in the rest period (before drinking liquid). Oral or ear temperature at the beginning of the next rest period should not exceed 99.5 °F. If it does, the next work period will be shortened by 33% while the length of the rest period will remain the same. However, if the OT exceeds 99.5 °F at the beginning of the next rest period, the following work period will be shortened by another 33 percent. A worker will not be permitted to wear a semi-permeable or impermeable protective ensemble when his/her body temperature exceeds 99.5°F.

- C. Body water loss (BWL) due to perspiration can be measured by having the worker weigh him/her self at the beginning and end of each workday. Similar clothing should be worn at both weighing. BWL should not exceed 1.5 percent total body weight in a workday.

TABLE 3
Suggested Frequency of Physiological Monitoring for Fit and Acclimated Workers¹

Adjusted Temperature ²	Normal Work Ensemble ³	Impermeable Ensemble ⁴
90°F (32.2°C) or above	After each 45 minutes of work	After each 15 minutes of work
87.5° -90°F (30.8° -32.2°C)	After each 60 minutes of work	After each 30 minutes of work
82.5° -87.5°F (28.1° -30.8°C)	After each 90 minutes of work	After each 60 minutes of work
77.5° -82.5°F (25.3° -28.1°C)	After each 120 minutes of work	After each 90 minutes of work
72.5° -77.5°F (22.5° -25.3°C)	After each 150 minutes of work	After each 120 minutes of work

¹ For work levels of 250 kilocalories per hour.

² Calculate the adjusted air temperature (T_{adj}) using the following equation:

$$T_{adj} (^{\circ}\text{F}) = T_{adj} (^{\circ}\text{F}) + (13 \times \text{percent sunshine})$$

Measure the air temperature (T_{adj}) using a standard mercury-in-glass thermometer with the bulb shielded from radiant heat.

³ A normal work ensemble consists of cotton overalls with long sleeves and pants.

⁴ An impermeable work ensemble consists of impermeable overalls with long sleeves and pants.

4.3.5 Recognition and Treatment

Any personnel who observes any of the following forms of heat stress either in themselves or in another worker, will report this information to his or her immediate supervisor or the SSHO.

A. Heat rash (or prickly heat)

Cause: Continuous exposure to hot or humid air, aggravated by chafing clothing

Symptoms: Eruption of red pimples around sweat ducts accompanied by intense itching and tingling.

Treatment: Remove sources of irritation and cool the skin with water and wet cloths.

B. Heat Cramps and Heat Prostration

Cause: Profuse perspiration accompanied by inadequate replenishment of body water and electrolytes.

Symptoms: Sudden development of pain and/or muscle spasms in the abdominal region.

Treatment: Remove the worker to the contamination reduction zone. Remove protective clothing. Decrease body temperature and allow a period of rest in a cool location.

C. Heat Exhaustion – SERIOUS

Cause: Overexertion in a hot environment and profuse perspiration accompanied by inadequate replenishment of body water and electrolytes.

Symptoms: Muscular weakness, staggering gait, nausea, dizziness, shallow breathing.

Treatment: Perform the following while simultaneously making arrangements for transport to a medical facility.

Remove the worker to the contamination reduction zone. Remove protective clothing. Lie the worker down on his or her back in a cool place, and raise the feet 6 to 12 inches. Keep warm, but loosen all clothing. If conscious, provide sips of a salt-water solution consistency of one-teaspoon salt in 12 ounces water. Transport the worker to a medical facility.

D. Heat Stroke – **EXTREMELY SERIOUS**

Cause: Same as heat exhaustion.

Symptoms: **No perspiration**, dry mouth, pain in the head, dizziness, nausea.

Treatment: Perform the following while making arrangements for transport to a medical facility.

Remove the worker to the contamination reduction zone. Remove protective clothing. Lie the worker down in a cool place and raise the head and shoulder slightly. **Cool without chilling.** Apply ice bags or cold wet cloth to the head. Sponge bare skin with cool water or rubbing alcohol. If possible, place the worker in a tub of cool water. Do not give stimulants. Transport to a medical facility.

4.4 Site Safety Meetings

Site safety orientation/training meetings shall be conducted by the SHSC before field personnel begin work at specific sites, when there are modifications to the HSP, and when additional personnel begin fieldwork. All field personnel involved in field activities shall attend meetings.

The site safety meeting agenda shall include the following:

- Description of the assigned tasks and their hazards;
- Coordination of Site activities;
- Identification of methods/precautions to prevent injuries;
- Identification of the chemicals of concern;
- Emergency planning;
- Modifications to the Health and Safety Plan; and
- Input from the field personnel on health and safety issues pertaining to the Site tasks.

At the end of the meeting, the SHSC will collect attendees' signatures indicating their receipt and understanding of the HSP and their agreement to comply.

5.0 PERSONAL PROTECTIVE EQUIPMENT

Based upon the hazards that may be encountered during site activities, PPE as follows was selected. Only PPE that meets the following ANSI standards are to be worn.

- Eye protection - ANSI Z87.1-1989
- Head protection - ANSI Z89.1-1986
- Foot protection - ANSI Z41-1991

The level of protection required while performing tasks at the Site will be dependent upon known and/or suspected contaminants to be encountered during the progress of the works. The level of protection, and any upgrading or downgrading, will be determined by the SHSC.

Personal protective clothing and equipment for field personnel working at the various protection levels designated for the task at hand are listed in Table 5.

Employees must maintain proficiency in the use and care of PPE that is to be worn. Typically this is covered during formal and informal refresher training sessions presented by TEM.

TABLE 5
Personal Protective Equipment

Level	Requirements
Level D	<ul style="list-style-type: none"> • Work requirements • Steel-toed boots • Approved safety glasses or goggles • Hard hat (when necessary) • Fluorescent vest, when vehicular traffic is on or adjacent to the site • Nitrile gloves for water sampling handling
Modified Level D	<ul style="list-style-type: none"> • Chemical resistance (acid or solvent) boot covers • PE-coated Tyvek® suit, NBR outer and nitrile inner gloves if skin contact with contaminants is possible.
Level C	<ul style="list-style-type: none"> • Level D • NIOSH-approved air purifying respirator with organic vapor/acid gas cartridges • Work uniform • Chemical resistance (acid or solvent) boot covers • Steel-toed boots • Hard hat • PE-coated Tyvek® suit, NBR outer and nitrile inner gloves if skin contact with contaminants is possible.
Level B	<ul style="list-style-type: none"> • Modified Level D • NIOSH/MSHA approved full-face positive pressure demand supplied air respirator, either airline or self-contained.
Prior to use, all equipment must be inspected to ensure proper working condition.	

5.1 Noise Handling Procedures

Evidence is well established that worker exposure to sound of sufficient intensity and duration can result in hearing damage. Regulatory requirements mandate that a hearing conservation program be implemented whenever employee sound exposures equal or exceed an 8-hour time-weighted average (TWA) sound level of 85 decibels (dB). This program prescribes measures required to prevent employee exposure to excessive sound levels and includes provisions for the following:

- Monitoring of the workplace to determine employee exposures.
- An audiometric testing program, which includes baseline and annual audiograms.
- Providing hearing protection to all affected employees when administrative or engineering controls fail to reduce sound levels to below the action level.

Monitoring of employee exposures to sound will be conducted whenever it is anticipated that exposure may exceed the action level. Employees will take precaution measures to protect themselves from excessive noise levels by using earplugs and/or earmuffs. Noise monitoring levels are presented in Table 6.

TABLE 6
Noise Monitoring Levels

Instrument	Measurement	Action
Type I or II SLM (Sound Level Meter)	> 80dB (A) – 85 dB (A)	Hearing protection recommended. Limit work duration to 8- hour shifts.
	> 85dB (A) – 90 dB (A)	Hearing protection required. Limit work duration to 8- hour shifts. Post signs.
	> 90dB (A) – 115 dB (A)	Hearing protection required. Investigate use of engineering controls. Limit work duration to 8- hour shifts. Post signs.
	> 115	Stop work. Contact HSM and PM.

5.2 Chemical Handling Procedures

Procedures for chemical handling are outlined in Table 7.

TABLE 7
Chemical Handling Procedures

Chemical	Description	Procedures
Acids and Bases	Extremely corrosive materials with a variety of uses Acids: Including Hydrochloric, Nitric, and Sulfuric acids Bases: Including Sodium hydroxide	<ul style="list-style-type: none"> Wear gloves and eye-splash protection while using acid dispensed from a small dropper bottle during water sampling. Wear a full-face, air-purifying respirator equipped with combination cartridges (organic vapor/acid gas) as well as Tyvek® coveralls and nitrile and/or NBR gloves for large volume applications. Have an eye wash bottle or portable eye wash station on-site. Cap all drums after dispensing chemicals. Do not add anything into a virgin chemical drum, including unused product. Avoid mixing strong acids and bases. Consult HSM for task-specific evaluation. If mixing is absolutely necessary, do it slowly. Avoid vapors or fumes that are generated. When diluting acids, add the acid to water in small quantities and mix cautiously.
Volatile Organic Compounds	Petroleum hydrocarbons, chlorinated solvents used for fuel, lubricants, cleaning agents, degreasers, dielectric fluids, etc.	<ul style="list-style-type: none"> Wear gloves and eye-splash protection while handling hazardous liquids, and at a minimum, gloves when handling contaminated soil containing these constituents. Wear a an air purifying respirator equipped with combination cartridges (organic vapor/acid/gas) as well as splash protection coveralls and nitrile and/or NBR gloves for large volume liquid handling or soils with VOCs near or above acceptable threshold levels. Have an eye wash bottle or portable eye wash station on-site. Keep away from oxidizing agents. Keep away from ignition sources or high temperatures. Avoid areas not well ventilated.
Unknown Drummed Chemicals or Wastes	Unknown wastes require identification using special handling and sampling procedures	A work plan delineating procedures for sampling and handling of unidentified hazardous materials/wastes is required for safe "hazardous waste categorization". Specific "decision tree" procedures must be followed to evaluate and segregate waste during the "hazardous waste categorization" program. Wastes will be classified according to chemical incompatibilities, degree of reactivity, combustibility and flammability, radioactivity, explosivity, toxicity, and extremely hazardous materials (which will exhibit a high degree of one or more of the other characteristics).

Chemical	Description	Procedures
Specialized Materials & Liquid Chemicals (See MSDS Information)	Various uses	See Material Safety Data Sheets (MSDS) for: <ul style="list-style-type: none"> • "Fire and Explosion Hazard Data" • "Reactivity Data" • "Special Protection Information" • "Special Precautions"
Activated Carbon	Granular adsorbent medium used to remove residual hydrocarbons from water and/or air.	<ul style="list-style-type: none"> • Use respiratory protection when activated carbon creates a dusty environment. • Contact HSR for task-specific evaluation.

6.0 AIR MONITORING

Air monitoring must be performed on all sites in accordance with TEM practices. Organic vapor concentrations are monitored in the field with a Photoionization Detector (PID) with a 10.6 eV lamp (for suspect compounds that have ionization potentials at or below 10.6 eV). All readings are taken in the worker's breathing zone to determine whether an action level has been met and/or exceeded. Readings must be sustained for 5 minutes for upgrade in PPE.

Air monitoring action levels are shown in Table 8 and have been developed by TEM to indicate the chemical concentrations in the breathing zone that require an upgrade level of PPE. All workers on-site have successfully passed a respirator fit test and a medical physical allowing him/her to wear a specifically assigned respirator. Additionally, all TEM personnel have been trained in the proper use (i.e. donning and doffing and fit checks), cleaning and maintenance. Air monitoring measurements will be taken in the breathing zone of the worker most likely to have the highest exposure. Transient peaks will not automatically trigger action. Action will be taken when levels are consistently exceeded in a 5-minute period. The action levels apply to all tasks performed on this Site.

TABLE 8
Air Monitoring Action Levels

Instrument*	Function	Measurement	Action
Photoionization Detector (PID)* (>50 ppmv are sustained for 5 minutes)	Measures total organic vapors	0 – 5 ppmv	Level D required.
		5-100 ppmv	Upgrade to Level C.
		>100-<500 ppmv	Level B. Stop work. Contact PM and HSM for guidance.
		>500 ppmv	Stop work. Contact PM and HSM for guidance.
Dust/Particulate Monitor (>2 ppmv are sustained for 5 minutes)*	Measures dust and particulate matter	0 - 2.5 mg/M ³	Level D required.
		2.5 – 50 mg/M ³	Upgrade to Level C.
		>50 mg/M ³	Stop work. Contact PM and HSM for guidance.

TABLE 8 continued
Air Monitoring Action Levels

Instrument*	Function	Measurement	Action
Oxygen/Combustible gas indicator/carbon monoxide meter*	Measures oxygen level (O ₂), carbon monoxide (CO) and lower explosive limit (LEL) of combustibles	O ₂ 19.5 - 22%	Acceptable conditions. Continue normal activity.
		O ₂ < 19.5%	Ventilate the space. Notify PM or HSM if unable to achieve acceptable conditions.
		O ₂ > 22%	Leave area immediately; this atmosphere is may be flammable. Notify PM or HSM.
		LEL <1-5%	Contact PM/HSM for advice.
		LEL >5%	Leave area immediately. Contact PM or HSM for guidance on venting and other safety measures.
		35 ppmv CO (40 mg/m ³ CO)	Acceptable maximum exposure level for 8 hr. time-weighted average (TWA).
		50 ppmv CO (55 mg/m ³ CO)	Exposure limit for 15 minute maximum. Ventilate to below 35 ppmv or leave area.
		200 ppmv CO (225 mg/m ³ CO)	Leave area immediately; Ventilate space to below 35 ppmv and monitor continuously.
* Instruments must be calibrated according to manufacturer's recommendations.			

Engineering controls such as the venturi air mover (supplied by compressed air) to exhaust or dilute solvent vapors emanating from monitoring wells or when conducting intrusive activities can be utilized as a means to downgrade PPE requirements (Level B to C, Level C to D).

Guidelines for frequency of air monitoring are presented in Table 9 and hazards involving air monitoring are presented in Table 10.

TABLE 9 Air Monitoring Frequency Guidelines

<p>Conduct periodic monitoring when:</p> <ol style="list-style-type: none"> 1. It is possible that an IDLH condition or a flammable atmosphere has developed or 2. There is an indication that exposures may have risen over permissible exposure limits or published exposure levels since the last monitoring. Look for a possible rise in exposures associated with these situations: <ul style="list-style-type: none"> • Change in site area - work begins on a different section of the site. • Change in contaminants - handling contaminants other than those first identified. • Visible signs of particulate exposure from intrusive activities such as drilling/boring and excavation. • Perceptible chemical odors or symptoms of exposure. • Change in on-site activity - one operation ends and another begins. • Handling leaking drums or containers. • Working with obvious liquid contamination (e.g., a spill or lagoon). <p>Conduct air monitoring when the possibility of volatilization exists (such as with a new monitoring well or a well containing known product).</p> <p>Conduct air monitoring on a well at a site known to have little contamination (documented by experience or laboratory data), only if an odor emanates from the well.</p>

TABLE 10
Hazard Summary

Air Monitoring System			
Job Task	Level PPE	Instrument	Frequency
Groundwater monitoring	Level D	PID ¹ /FID ²	Start up of work at each new task location
Soil vapor extraction system operation and maintenance	Level D	PID/FID	Start up of work at each new task location

¹PID = Photoionization Detector

²FID = Flame Ionization Detector

Note: "Start up of work at each new task location" means to monitor the air quality at each new operation on the site. The breathing zone is the area inside a 1-foot radius around the head.

It is always important to identify what chemical agents are present at each individual site. Based on this analysis, protocol is established for monitoring instruments and screening equipment to be used with these chemicals. This protocol is presented in Table 11.

TABLE 11
Specific Criteria and Protocol for Specifying Health and Safety for Projects Involving Specific Chemical Agents or Other Industrial-Specific Conditions

Potential Chemical Exposure or Exposure Scenario	Criteria and Protocol for Health and Safety Specification
Benzene 1,1 DCE PCE	Use calorimetric tubes for confirming the presence of the specific compounds. Use a 10.6 eV PID to determine if VOCs are present.
1,1,1-TCA 1,1-DCA Freon 11 Freon 113 General other chlorinated compounds	Use calorimetric tubes for confirming the presence of the specific compounds. Use an FID to determine if VOCs are present.
Various metals	Use particulate monitoring instrument after conducting pre-screen sample analysis for confirming the presence of dust possible containing toxic levels of metal compounds.

7.0 SITE AND WORK ZONE CONTROL

Access to the work zone for field personnel and visitors will be controlled by the SHSC.

7.1 Work Zones

Work zones will be established in order to:

- Delineate high-traffic locations;
- Identify hazardous locations so appropriate safety, monitoring and engineering controls can be implemented; and
- Contain contamination within the smallest area possible.

Employees entering the work zone must wear the proper PPE for that area. Work and support areas will be established based on ambient air data, necessary security measures, and site-specific conditions. Examples of site security and work zones are provided in Table 12.

TABLE 12
Site Security and Work Zone Examples

WORKING IN STREET OR ROADWAY

- Wear traffic vest and hardhat when vehicle hazard exists.
- Use cones, flag mounted cones, caution tape and/or barricades.
- Use vehicle strobe light and block entry to the area with truck.
- Develop a control plan for high traffic situations: use flag person, use flashing arrow sign, use "MEN WORKING" signs liberally, obtain lane closing permits, engage police details.

The SHSC may designate the area surrounding each Site locale into a work and/or exclusion zone, decontamination zone, and support zone, if necessary.

7.1.1 Work/Exclusion Zone

The work/exclusion zone is the innermost of three concentric areas and is the zone where contamination is known to or could occur. All personnel entering the exclusion zone will wear the prescribed Level of Protection for the subject Site.

Check point for entry and exit will be established at the periphery of the zone to regulate the flow of personnel and equipment into and out of the zone and to verify that established entry and exit procedures are followed. The boundary of this zone will be determined by the area necessary to conduct the activities and the potential for contaminants to be blown or splashed during the activities. When this boundary is determined, it will be marked and only individuals approved by the SHSC can enter this zone. During subsequent Site operations, the boundary may be modified/adjusted as additional information becomes available.

7.1.2 Decontamination Zone

An equipment decontamination area must be established for each exclusion zone. It may be part of the exclusion zone, outside of the zone, or both. Equipment that must be decontaminated before being reused in an exclusion zone may be decontaminated in the decontamination zone. Heavy equipment will be decontaminated in a relatively uncontaminated area in a contamination reduction zone before leaving the controlled area. Protective equipment worn in exclusion zones must also be worn in equipment decontamination areas.

One or more areas shall be designated for decontamination of personnel because personnel decontamination will be required before rest breaks, lunch, leaving the site at the end of the work shift and entering the support zone to coordinate activities with other personnel.

7.1.3 Support Zone

A support zone is a clean area where support equipment and facilities are located. The support zone is best if stationed upwind of the work/exclusion or disturbance area(s).

8.0 DECONTAMINATION PROCEDURES

Operations conducted at this site have the potential to contaminate field equipment and PPE. To prevent the transfer of contamination to vehicles, administrative offices and personnel, the procedures presented in Table 13 must be followed.

TABLE 13
Decontamination Procedures

Item	Examples	Procedures
Field Equipment	Bailers, water meters/interface probes, hand tools, drill augers, and miscellaneous sampling equipment	<ul style="list-style-type: none"> Decontaminate with a solution of detergent (preferably non-phosphate) and water; rinse with water prior to leaving the site. Protect from exposure by covering with disposable covers such as plastic to minimize required decontamination activities.
Hazardous Waste Sampling Equipment	Stainless steel spatulas, glass thieves, test tubes	<ul style="list-style-type: none"> Decontaminate sampling equipment using only compatible materials (see MSDS information or specific project work plan)
Disposable PPE & Non-disposable PPE	Tyvek® suits, inner latex gloves, respirator cartridges	<ul style="list-style-type: none"> Dispose of according to the requirements of the client and state and federal agencies. Change out respirator cartridges on a daily basis and dispose appropriately.
	Respirators	<ul style="list-style-type: none"> Clean/sanitize respirator with disinfecting pad prior to donning. Decontaminate on-site at the close of each day with a solution of an approved sanitizing powder and water.
	Boots and gloves	<ul style="list-style-type: none"> Decontaminate outside with a solution of detergent and water; rinse with water prior to leaving the site. Protect from exposure by covering with disposable covers such as plastic to minimize required decontamination activities.

Materials required for decontamination are as follows:

- Plastic sheeting
- Polyethylene bags
- Sufficient water for soaping and rinsing (tap and de-ionized)
- Several large tubs and/or buckets
- Non-phosphate soap and brushes
- Hand soap
- Toweling

- 55 gallon drums

All water used in decontamination procedures should be stored in portable storage tanks or drums until sufficient amounts are stockpiled to facilitate disposal or treatment. Disposable sampling equipment and PPE will be placed in plastic bags and temporarily stored in designated drums. These drums shall be disposed of according to regulatory guidelines, if necessary.

9.0 HAZARD IDENTIFICATION AND CONTROL

Precautions must be taken to prevent injuries and exposures to the potential hazards shown in Table 15.

TABLE 15
Potential Hazards and Control

Potential Hazards	Control
Exposure to Chemical Products (See site specific MSDS)	<ol style="list-style-type: none"> 1. Stand up-wind of chemical products whenever possible. 2. Minimize contact and contact time with chemical products. 3. Avoid walking through discolored areas, puddles, leaning on drums, or contacting anything that is likely to be contaminated. Proper boots made of compatible materials and/or shoe coverings, must be worn if contaminated ground is unavoidable. 4. Do not eat, drink, smoke, and/or apply cosmetics in the hot or warm zones. 5. Wear gloves when in contact with contaminated surfaces. 6. Eye protection must be worn at a minimum. 7. Splash goggles must be worn when working with liquids. 8. > 5 ppm organic vapors in breathing zone requires upgrade from level C. Refer to Table 8. 9. > 50 ppm organic vapors in breathing zone requires upgrade from level C to Level B. 10. If unknown materials are encountered, call the HSR.
Exposure to Unidentified Hazardous Materials	<ol style="list-style-type: none"> 1. Stand up-wind of hazardous materials whenever possible. 2. An isolated and controlled staging area secured from unauthorized personnel must be provided for safe evaluation and handling of these materials (see Table 6: Chemical Handling Procedures, and Table 11: Site Security and Work Zone Examples). 3. Only informed and authorized personnel are allowed in staging area. 4. A specific work plan must be developed prior to sampling and evaluation of unidentified hazardous materials for "hazardous materials categorization". 5. Once identified, hazardous materials must be separated into zones based on (at a minimum), chemical compatibility, reactivity criteria, combustibility/flammability, radioactivity and extremely hazardous materials (which may include high toxicity, explosivity, and/or any of the aforementioned criteria).

Potential Hazards	Control
Vehicular Traffic	<ol style="list-style-type: none"> 1. Wear traffic safety vest when vehicle hazard exists. 2. Use cones, flags, barricades, and caution tape to define work area. 3. Use vehicle to block work area. 4. Engage police detail for high-traffic situations.
Inclement Weather	<ol style="list-style-type: none"> 1. Stop outdoor work during electrical storms and other extreme weather conditions such as extreme heat or cold temperatures. 2. Take cover indoors or in vehicle. 3. Listen to local forecasts for warnings about specific weather hazards such as tornadoes, hurricanes, and flash floods.
Noise	<ol style="list-style-type: none"> 1. Hearing protection is required when measured sound pressure levels (SPL) exceed 85 dB (A) where employees stand or conduct work. 2. Wear hearing protection when working around equipment such as a drill rig, jackhammer, cut saw, air compressor, blower or other heavy equipment is operating on the site. 3. Wear hearing protection whenever you need to raise your voice appreciably above normal conversational speech due to a loud noise source; this much noise may indicate the need for protection.
Physical Injury	<ol style="list-style-type: none"> 1. Wear hard hats and safety glasses when on-site. 2. Maintain visual contact with the equipment operator and wear orange safety vest when heavy equipment is used on-site. 3. Avoid loose fitting clothing (i.e. driller and driller's helper). 4. Prevent slips, trips and falls; keep work area uncluttered. 5. Keep your hands away from moving parts (i.e. augers on drill rigs). 6. Test the emergency shut-off switch on the drill rig daily.
Back Injury	<ol style="list-style-type: none"> 1. Use a mechanical lifting device or a lifting aid where appropriate. 2. If you must lift, plan the lift before doing it. 3. Check your route for clearance. 4. Bend at the knees and use leg muscles when lifting. 5. Use the buddy system when lifting heavy or awkward objects. 6. Do not twist your body while lifting.

Potential Hazards	Control
Heat Stress	<ol style="list-style-type: none"> 1. Increase water intake while working. 2. Increase number of rest breaks and/or rotate workers in shorter work shifts; take breaks in shaded areas. 3. Watch for signs and symptoms of heat exhaustion and fatigue. 4. Plan work for early morning or evening during hot months. 5. Use ice vests as necessary. 6. Rest in cool, dry areas. 7. In the event of heat stroke, bring the victim to a cool environment and call 911.
High Crime Areas	<ol style="list-style-type: none"> 1. Be aware of surroundings. 2. Use the buddy system. 3. Request police detail when appropriate. 4. Limit work during daylight hours when possible.
Insects	<ol style="list-style-type: none"> 1. Tuck pants into socks. 2. Wear long sleeves. 3. Use insect repellent.
Poisonous Plants (Such as poison ivy, oak or sumac)	<ol style="list-style-type: none"> 1. Don't enter areas infested with poisonous plants. 2. Immediately wash any areas that come into contact with poisonous plants. 3. Wear protective clothing (long sleeves, pants) if necessary to enter area. 4. Put affected clothing into plastic garbage bags, segregating them from contaminating other contact surfaces and materials. 5. Do not attempt to clear area with fire or pollen/dust producing operations such as weed whacking.
Well installation, Well Development, Well Gauging, Well Bailing, Soil/Groundwater Sampling	<ol style="list-style-type: none"> 1. Wear appropriate PPE to avoid skin, eye, and inhalation contact with contaminated groundwater and/or soil. 2. Stand upwind when conducting tasks and minimize possible inhalation exposure, especially when first opening monitoring wells. 3. Conduct air monitoring to determine level of respiratory protection. 4. Utilize engineering controls such as portable venturi air movers to draw away or blow away chemical vapors. 5. Avoid breathing dust from dry sand, cement or bentonite used during soil boring and well installation. 6. Have eye wash station nearby during wet operations.
Cleaning Equipment	<ol style="list-style-type: none"> 1. Wear appropriate PPE to avoid skin and eye contact with isopropyl alcohol, Alconox, or other cleaning materials.

Potential Hazards	Control
	2. Stand upwind to minimize any potential inhalation exposure.
	3. Dispose of spent cleaning solutions and rinses accordingly.
First aid kit, emergency eye wash station, fire extinguisher and absorbent pads will be located on-site in the trunk of field vehicles or fixed facility first aid station.	

10.0 EMERGENCY CONTINGENCY PLANS

Standard emergency procedures to be used by on-site personnel are presented in Table 17. The SHSC shall be notified of any on-site emergencies and will be responsible for ensuring that the appropriate procedures are followed.

In the event of an occupational injury or illness that occurs to the contractor or subcontractor's employees while on Client's property, the project manager (PM) or the site health and safety officer (SHSO) will notify the Client immediately. All near misses that could have lead to an injury or illness shall be reported as well.

TABLE 17
Contingency Plans for Site Emergencies

Situation	Action
Evacuation	<ol style="list-style-type: none"> 1. Immediately notify all on-site personnel of an emergency requiring evacuation. 2. Leave the dangerous area and report to a designated rally point. 3. Notify Emergency Services, as appropriate. 4. Account for all personnel. 5. Contact the PM and the HSM as soon as possible. 6. Maintain site security and control measures for community safety until emergency responders arrive.
Medical Emergency	<ol style="list-style-type: none"> 1. Survey the situation: <ul style="list-style-type: none"> Do not enter an area that may jeopardize your safety. <ul style="list-style-type: none"> Establish the patient's level of consciousness. Ascertain/evaluate condition of patient. Call for help. Contact Emergency Medical Services and inform them of victim's condition, and inform that victim is contaminated, if appropriate. 2. Primary Assessment (patient unconscious) <ul style="list-style-type: none"> Response Airway Breathing Circulation <p>Only trained personnel should perform CPR or First Aid.</p> 3. Secondary Assessment (patient conscious) <ul style="list-style-type: none"> Check for bleeding: Control with direct pressure. Do not move patient (unless location is not secure). Monitor vital signs. Provide first aid to the level of your training. Contact the PM and the HSM as soon as possible. Document the incident on Tait & Associates' PIR form.
Fire Emergency	<ol style="list-style-type: none"> 1. Evacuate the area. 2. Notify the Emergency Services. 3. Extinguish small fires with an all-purpose extinguisher. 4. Contact the PM and HSM. 5. Document the incident using the PIR form.

TABLE 17 (Continued)
Contingency Plans for Site Emergencies

Situation	Action
Spill/Release	<p>Prevent problems by documenting the location of underground lines (e.g. product, electrical, gas, transmission, water, sewer, telephone) before starting site work. If you drill through a line or a tank or another leak occurs, document the spill/release in writing. Include dates, times, actions taken, agreements reached and names of people involved. In the event of a spill/release, follow this plan.</p> <ol style="list-style-type: none"> 1. Wear appropriate PPE; stay upwind of the spill/release. 2. Turn off equipment and other sources of ignition. 3. Turn off pumps and shut valves to stop the flow/leak. 4. Plug the leak or collect drippings in a bucket, when possible. 5. Place sorbent pads to collect product, if possible. 6. Call Fire Department immediately if fire emergency develops. 7. Inform TEM PM about the situation. 8. Determine if client wants Tait & Associates to repair the damage or if the client will use an emergency repair contractor. 9. Based on agreements, contact emergency spill contractor for containment of free product. 10. Advise the client of spill discharge notification requirements and determine who will complete and submit forms. Do not submit or report to agencies without the client's consent. Document each interaction with the client and regulators and note, in writing: name, title authorizations, refusals, decisions, and commitments to actions. 11. Do not transport or approve transportation of contaminated soils or product until proper manifests have been completed and approved. Be aware that soils/product may meet criteria for hazardous waste. 12. Do not sign manifests as generator of wastes; contact the regional compliance manager to discuss waste transportation.
<p>Notifications - a spill/release requires completion of a preliminary incident report (PIR) and Class III notification.</p> <p>The Project Manager must contact the client or generator. The generator is under obligation to report to the proper government agencies. If the spill extends into waterways, the Coast Guard and the National Response Center (1-800-424-8802) must be notified immediately by the Client or with his/her permission.</p>	

APPENDIX A
SITE SPECIFIC EMERGENCY INFORMATION

SITE SPECIFIC EMERGENCY INFORMATION PROJECT HEALTH AND SAFETY PLAN

*Do not endanger your own life.
Survey the situation before taking any action.*

SITE INFORMATION

Site Name: Boeing Realty Corporation, Former C-6 Facility
Site Location: 1451 Knox Street, Los Angeles, California
Site Description: Former Aerospace Facility
Site Size: _____
On-Site Location: _____
Project Schedule: 2006

TASK DESCRIPTIONS

This plan addresses the safety issues associated with the subject Site and surrounding properties, and involves the following site-specific tasks (**check those that apply**):

- ☐ Site Surveys/Reconnaissance Mapping
- ☐ Hand Augering/Shallow Excavations
- ☐ Soil Investigations/Sampling/Drilling
- ☐ Groundwater Monitoring/Sampling
- ☐ Groundwater Monitoring Well Installation/Abandonment
- ☐ Remediation System Operation and Maintenance
- ☐ Civil Designing/Engineering/General Construction
- ☐ Aboveground Storage Tank (AST), Underground Storage Tank (UST) and/or Clarifier Removal/Replacements

Serious Moderate Low **X**

Check level that is applicable to designated tasks and site conditions*. Descriptions of PPE levels are presented in Table 1.

- ☐ Level D
- ☐ Modified Level D
- ☐ Level C
- ☐ Level B

*Upgrade as site/working conditions change.

- Aromatic and/or Halogenated Volatile Organics
- Metals
- Non-Halogenated Volatile Organics
- Phenols
- Polynuclear Aromatic Hydrocarbons
- Pesticides
- PCBs
- Semi-Volatile Organics

Check all that apply to designated tasks and site conditions

Acetone		Jet A Petroleum		1,1-Dichloroethene	X
Benzene		TPHd		cis-1,2-Dichloroethene	
MTBE		TPHg		1,1,1-Trichloroethane	X
Toluene	X	Trichloroethene (TCE)	X	Vinyl Chloride	X
Methylene Chloride	X	Tetrachloroethene (PCE)	X	Hexavalent Chromium	
Freon		2-Butanone	X		
Other(s)					
VOCs					

EMERGENCY PHONE NUMBERS

In the event of an emergency contact Project Manager or Health and Safety Representative

Ambulance	911
Fire/Police	911
Poison Control	1-800-222-1222
Hospital Name	Los Angeles County Harbor-UCLA Medical Center
Hospital Phone Number (Nearest Hospital Facility)	(310) 222-2345
Project Manager	Greg Gibbs: (714) 560-8681
Site Safety Officer	Stan Jackson: (714) 719-6897
Health and Safety Manager	Thomas Dixon: (714) 560-8684
Client Contact	Dennis Carlson (818) 535-7438

HOSPITAL LOCATION MAP



SITE ADDRESS

Boeing Realty Corporation
Former C-6 Facility
1451 Knox Street
Los Angeles, California

HOSPITAL ADDRESS

Los Angeles County Harbor-UCLA
Medical Center
1000 West Carson Street
Los Angeles, California
(310) 222-2345

DIRECTIONS:

From SITE travel west on Knox Street to Harborgate Way and turn right (north). Proceed north to 190th Street and turn right (east). Proceed east ¼ mile to Normandie Avenue. Take a right (south) on Normandie Avenue and follow for approximately 2 miles to 220th Street. Take a left (east) on 220th Street and proceed approximately ¾ mile to entrance of UCLA Medical Center. Take a left (north) into UCLA Medical Center Grounds.

EMERGENCY FIRST AID

Ingestion	DO NOT INDUCE VOMITING. Call Poison Control - follow instructions. Administer CPR if necessary. Seek medical Attention.
Inhalation	Remove person from contaminated environment. Administer CPR if necessary. Seek medical attention. DO NOT ENTER A CONFINED SPACE TO RESCUE SOMEONE WHO HAS BEEN OVERCOME UNLESS PROPERLY EQUIPPED AND A STANDBY PERSON IS PRESENT.
Skin Contact	Brush off dry material; Remove wet or contaminated clothing; Flush skin thoroughly with water; Seek medical attention if irritation persists.
Eye Contact	Flush eyes with water for 15 minutes. Seek medical attention.
Exposure Symptoms	Headache, dizziness, nausea, drowsiness, irritation of eyes, nose, throat, breathing difficulties, and or unconsciousness.
Contingency Plan	Report incident to Project Manager and Regional Health and Safety Manager after emergency procedures have been implemented.

Responder Must Have a Current Certificate to Administer First Aid or CPR

1. Survey the situation. Do not endanger your own life. **DO NOT ENTER A CONFINED SPACE TO RESCUE SOMEONE WHO HAS BEEN OVERCOME UNLESS PROPERLY EQUIPPED AND A STANDBY PERSON IS PRESENT.**
2. IMMEDIATELY call 911 for an ambulance or fire department. Explain the physical injury, chemical exposure, fire, or substance release.
3. Decontaminate the victim without delaying life-saving procedures.
4. If the victim's condition appears to be non-critical, but seems to be more severe than minor cuts, he/she should be transported to the nearest hospital by trained Emergency Medical Services (EMS) personnel: let the doctor assume the responsibility for determining the severity of the injury. If the condition is obviously serious, EMS must transport the victim.
5. Notify the Project Manager and the Regional Health and Safety Manager. Complete the TEM Preliminary Incident Report (PIR) within 24 hours.

EMERGENCY FIRST AID PROCEDURES

To Stop Bleeding	Cardiopulmonary Resuscitation (CPR)
<ol style="list-style-type: none">1. Give medical statement2. Assure airway, breathing, and circulation.3. Use DIRECT PRESSURE over the wound with clean dressing or your hand (use non-permeable gloves). Direct pressure will control most bleeding.4. Bleeding from an artery or several injury sites may require DIRECT PRESSURE on a PRESSURE POINT. Use pressure points for 30 - 60 seconds to help control severe bleeding.5. Continue primary care and seek medical aid as needed.	<ol style="list-style-type: none">1. Give medical statement2. Call 911 for medical assistance3. Response: Check for consciousness4. Open airway with chin-lift (adult). For child don't head back as far.5. Look, listen and feel for breathing6. If breathing is absent, give 4 quick full rescue breaths for adult; give gentle puffs through nose and mouth for infant.7. Check the pulse for 5 to 10 seconds.8. If pulse is present, continue rescue breathing 1 breath every five seconds for adult; one gentle puff every three seconds for infant.9. If pulse is absent, initiate CPR; for adult give 5 compressions for each breath (60 compressions per minute); for infant give 4 to 5 gentle compressions for each breath.

APPENDIX B
AGREEMENT & ACKNOWLEDGEMENT SHEET

[illegible]

**TAIT ENVIRONMENTAL MANAGEMENT, INC.
AGREEMENT AND ACKNOWLEDGEMENT STATEMENT**

1. I have read and fully understand the HSP and my responsibilities.
2. I agree to abide by the provisions of the HSP.

Name

Signature

Company

Date

Name

Signature

Company

Date

Name

Signature

Company

Date

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APPENDIX C

LOCKOUT/TAGOUT PROCEDURE

C-6 Lockout/Tagout Procedure

Introduction

This procedure establishes the minimum requirements for the lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment. It shall be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources and locked out before employees perform any servicing or maintenance where the unexpected energization or start-up of the machine or equipment or release of stored energy could cause injury.

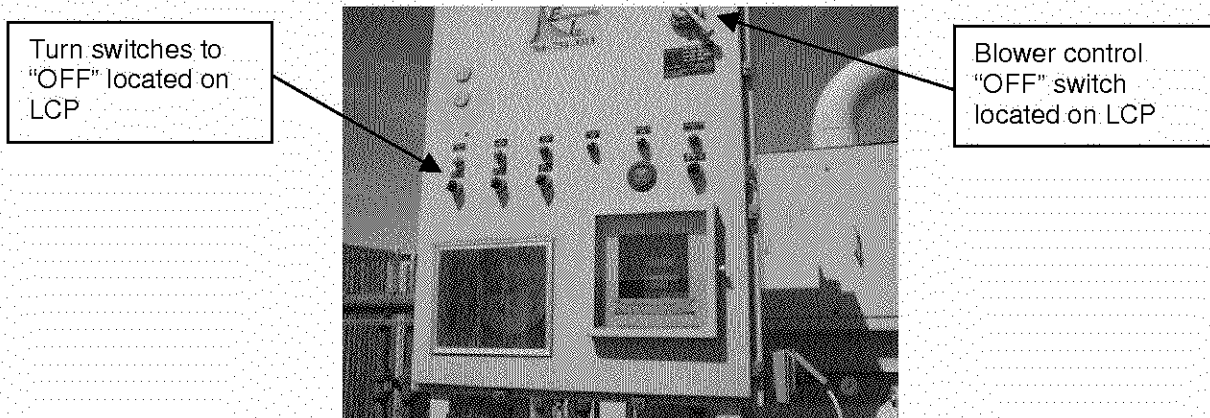
1.0 Preparation for shutdown

When maintenance is needed on a piece of equipment and Lockout/Tagout procedures are required, all parties shall be notified at least 48 hours in advance. This includes the authorized representative from Boeing, and TEM and any other subcontractors involving performing maintenance tasks. All representatives will have to be present with their lockout keys to successfully open the lockout devices.

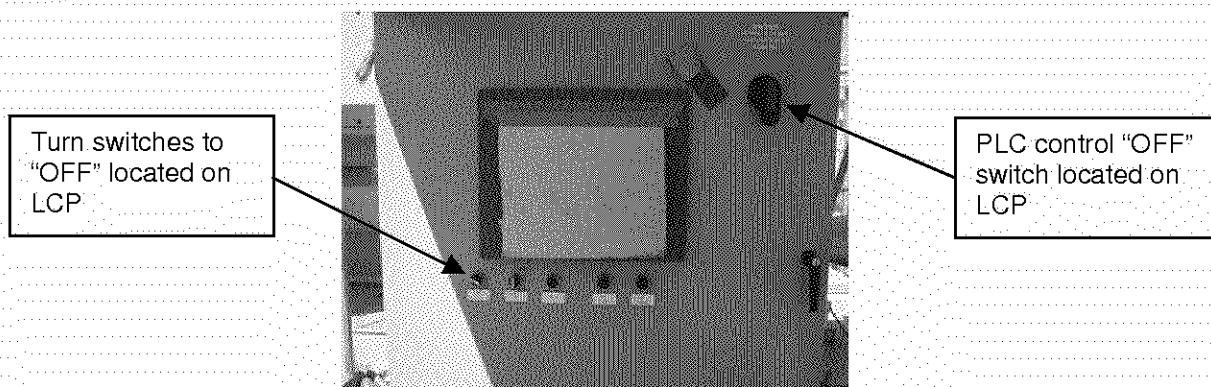
2.0 Energy Control Procedure

All authorized representatives must assemble at the predetermined time at the site with their respective keys to all lockout devices. An orderly shutdown will be performed to avoid any additional hazard(s) to employees as a result of equipment shutdown. The shutdown will be performed as follows:

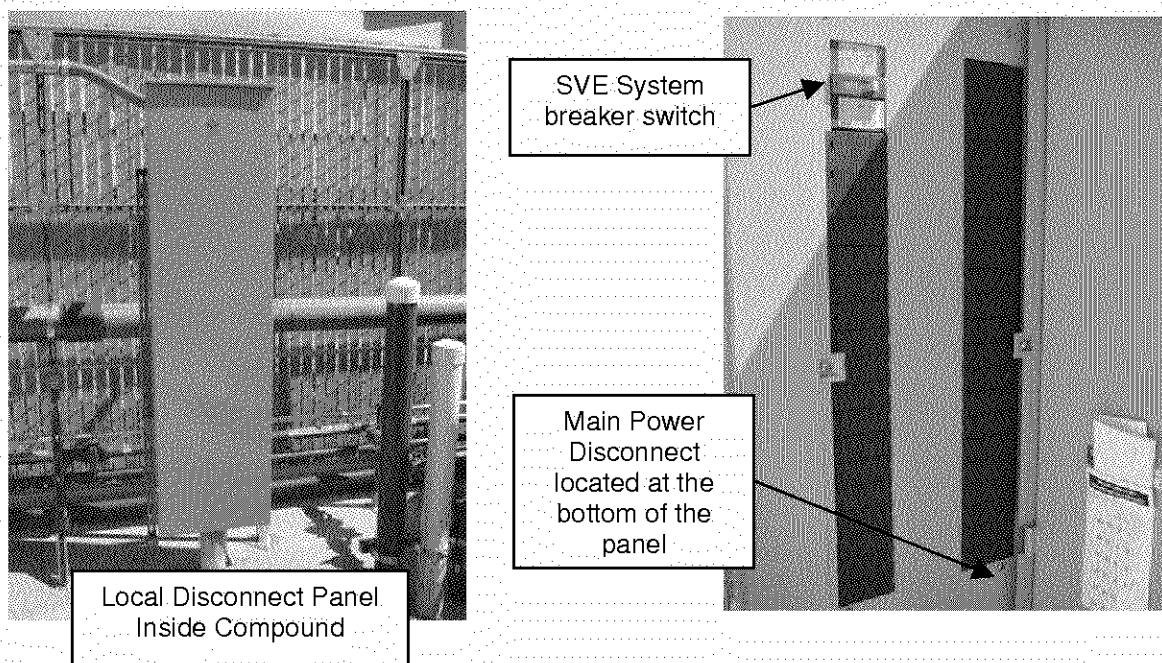
1. Prior to shutting down the system and de-energizing the system. Close ball valves mounted next to the solenoid valves on the carbon vessels. This is to prevent water from filling the vessels when the power is turned off.
2. Turn of Hand Off Auto (HOA) switches on Local Control Panel (LCP). Turn blower control ON/OFF switch to "OFF" at LCP mounted on the SVE Skid.



3. Turn of Hand Off Auto (HOA) switches on the PLC Local Control Panel (LCP). Turn power control ON/OFF switch to "OFF" at LCP mounted on the SVE Skid.
4. Turn of Hand Off Auto (HOA) switches on the PLC Local Control Panel (LCP). Turn power control ON/OFF switch to "OFF" at LCP mounted on the SVE Skid.



5. Open LCP and using a voltage meter, verify that power sources have been properly de-energized. Locate fuses and remove fuses. Close LCP and lockout/tagout LCP.
6. Locate the local disconnect panel (LDP) and turn off. The LDP is located on the concrete block wall to the left of the vapor extraction manifold. Open LDP and using a voltage meter, verify that power sources have been properly de-energized. Locate fuses and remove fuses. Close LDP and lockout/tagout LDP.



Attach tagout device, with date and reference to the equipment being locked out and indicating that the equipment being controlled may not be operated until the tagout device is removed.

Lockout/Tagout procedures require inspection of the equipment to ensure that the work necessitating energy control has been completed to National Electrical Code (NEC) standards and that the system is safe to re-energize. Each lockout/tagout device shall be removed from each energy-isolating device by the employee who applied the device.

APPENDIX D
MATERIAL SAFETY DATA SHEETS

APPENDIX E

AIR MONITORING FORM FOR PPE UPGRADE

AIR MONITORING FORM FOR PPE UPGRADE

Date:	Time:	am/pm	PPE Level before upgrade:
Work area / location:			
Reason for PPE upgrade:			
Chemical constituents for air monitoring:		Monitoring instrument:	
Minor constituents:		Calibration date:	
		Calibration Std.:	
Air monitoring/sampler name:		Site Safety Officer:	
Chemical and PEL TLV or REL:		Mode of exposure:	
Other chemicals and PEL TLV or REL:		Other pertinent information:	

Time	Instrument Reading (Units=)	Time	Instrument Reading (Units=)

APPENDIX F
HEALTH AND SAFETY INCIDENT REPORT

HEALTH AND SAFETY INCIDENT REPORT

Employee Name _____		Date of Birth _____	
Home Address _____		Phone No. _____	
Sex: M _____ F _____	Job Title _____		SSN _____
Office No. _____	Office Loc. _____		Date of Hire _____
Hours Usually Worked:	Per Day _____	Per Week _____	Total Weekly _____

Where did accident or exposure occur? (Include address) _____

County _____ State _____ On Employer's Premises? Yes _____ No _____

What was employee doing when injured? (Be specific as possible)

How did the accident or exposure occur? (Describe fully)

What steps could be taken to prevent such an occurrence?

Object or substance that directly injured or was exposed to employee

Describe injury or illness _____ Part of body affected _____

Name and address of physician _____

If hospitalized, name and address of hospital _____

Date of injury / Illness _____ Time of Day _____

Loss of 1 or more day(s) of work Yes / No If yes, date last worked _____

Has employee returned to work? Yes / No If yes, date returned _____

Did employee die? Yes / No If yes, date _____

Completed by (print): _____	Signature: _____
Title _____	Date _____

This report must be completed by the supervisor or site safety officer immediately upon learning of the incident.

APPENDIX G

DAILY SAFETY MEETING FORMS

**DAILY SAFETY MEETING**

Project Name: _____

Date: _____

Project Number: _____

Presented by: _____

Check the Topics/Information Reviewed:

- | | | |
|---|--|---|
| <input type="checkbox"/> Safety is everyone's responsibility | <input type="checkbox"/> Heat and cold stress | <input type="checkbox"/> Dust and vapor control |
| <input type="checkbox"/> Accidents can be costly | <input type="checkbox"/> Equipment and machinery familiarization | <input type="checkbox"/> Excavation/trenching inspections/documentation |
| <input type="checkbox"/> No horseplay | <input type="checkbox"/> Excavator swing and loading | <input type="checkbox"/> Confined space entry |
| <input type="checkbox"/> Site health and safety plan reviewed | <input type="checkbox"/> Decontamination steps | <input type="checkbox"/> Refueling procedures |
| <input type="checkbox"/> Review emergency protocol | <input type="checkbox"/> Portable tool safety and awareness | <input type="checkbox"/> Full face respirators with proper cartridges |
| <input type="checkbox"/> Directions to hospital | <input type="checkbox"/> Orderly site and housekeeping | <input type="checkbox"/> Hot work permits |
| <input type="checkbox"/> Employee Right-To-Know/MSDS location | <input type="checkbox"/> Smoking in designated areas | <input type="checkbox"/> Flying debris hazards |
| <input type="checkbox"/> First aid, safety, and PPE location | <input type="checkbox"/> Parking and lay down area | <input type="checkbox"/> Overhead utility locations cleared. |
| <input type="checkbox"/> Safety glasses, hard hat, safety boots | <input type="checkbox"/> Leather gloves for protection | <input type="checkbox"/> Poison ivy / oak / sumac |
| <input type="checkbox"/> Fire extinguisher locations | <input type="checkbox"/> Vehicle backing up hazards | <input type="checkbox"/> Upgrade to Level C at: PID (____ eV) > ____ ppmv |
| <input type="checkbox"/> Daily work scope reviewed | <input type="checkbox"/> Sharp object, rebar, and scrap metal hazards | <input type="checkbox"/> Work stoppage at: PID (____ eV) > ____ ppmv, % LEL > 10% |
| <input type="checkbox"/> Strains and sprains | <input type="checkbox"/> Effects of the night before? | <input type="checkbox"/> All underground utilities cleared? |
| <input type="checkbox"/> Slips, trips, and falls | <input type="checkbox"/> Weather conditions (rain/snow) | <input type="checkbox"/> Flex-N-Stretch performed |
| <input type="checkbox"/> Eye wash station locations | <input type="checkbox"/> Latex gloves inner/nitrile gloves outer | <input type="checkbox"/> Anticipated visitors |
| <input type="checkbox"/> Electrical ground fault | <input type="checkbox"/> Vibration related injuries | |
| <input type="checkbox"/> Vehicle safety and driving/road conditions | <input type="checkbox"/> Open pits, excavations, and trenching hazards | |
| <input type="checkbox"/> Public safety and fences | <input type="checkbox"/> Noise hazards | |

Other Discussion Items/Comments/Follow-up Actions: _____

I have reviewed the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. Visitors will be required to be escorted in the restricted access zone. Visitors must comply with Tait Environmental Management, Inc. escort directions while on site at all times. Non-compliance with escort directions will not be tolerated, and violators will be requested to leave the site immediately.

A physician based on medical examination has approved me to wear a respirator. I have been trained in the appropriate use, care, and storage of respiratory equipment. I have been respirator fit tested; and I have my respirator available for use in the field. I understand that I am to use the equipment supplied to me by my employer. I further understand that this equipment is provided solely for my benefit with the intent to minimize my exposure to potentially hazardous conditions. In the event of such usage, I agree to indemnify and hold harmless Tait Environmental Management, Inc. and all of its employees from and against any and all losses, demands, claims, liabilities, lawsuits, damages, costs, and expenses arising, in any way, from the use of the equipment.

NAME

SIGNATURE

COMPANY

Instructions:

- Conduct a daily safety meeting prior to beginning each day's site activities
- Complete form, obtain signatures, and file with the Daily Summary